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May 26, 1998

US-PAT-NO: 5756322

DOCUMENT-IDENTIFIER: US 5756322 A

TITLE: Pokeweed antiviral protein mutants

DATE-ISSUED: May 26, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 530/370; 536/23.6

## CLAIMS:

I claim:

1. A PAP mutant having reduced phytotoxicity compared to mature, wild-type PAP or PAP-v (Leu20Arg Tyr49His), said PAP mutant containing intact catalytic active site amino acid residues (Glu176, Arg179) and exhibiting anti-viral or anti-fungal activity.
2. The PAP mutant of claim 1, which has altered compartmentalization in vivo compared to wild-type PAP.
3. The PAP mutant of claim 2, having an amino acid substitution at Gly75.
4. The PAP mutant of claim 3, comprising PAP (1-262, Gly75Val).
5. The PAP mutant of claim 1, which includes the N-terminal signal sequence of wild-type PAP.
6. The PAP mutant of claim 1, which includes the C-terminal extension of wild-type PAP.
7. The PAP mutant of claim 2, having an amino acid substitution at Glu97.
8. The PAP mutant of claim 7, which is PAP (1-262, Glu97Lys).
9. The PAP mutant of claim 1, truncated by from at least about 26 to about 76 C-terminal amino acids of mature PAP.
10. The PAP mutant of claim 9, truncated by about 55 C-terminal amino acids of mature PAP.
11. The PAP mutant of claim 10, comprising PAP (1-206Glu).
12. The PAP mutant of claim 9, truncated by about 26 C-terminal amino acids of mature PAP.
13. The PAP mutant of claim 12, comprising PAP (1-236Lys).
14. The PAP mutant of claim 9, truncated by about 76 C-terminal amino acids of

mature PAP.

15. The PAP mutant of claim 14, comprising PAP (1-184Glu).

16. The PAP mutant of claim 14, comprising PAP (1-188Lys).

17. The PAP mutant of claim 9, selected from the group consisting of PAP (1-236), PAP (1-235), PAP (1-234), PAP (1-233), PAP (1-232), PAP (1-231), PAP (1-230), PAP (1-229), PAP (1-228), PAP (1-227), PAP (1-226), PAP (1-225), PAP (1-224), PAP (1-223), PAP (1-222), PAP (1-221), PAP (1-220), PAP (1-219), PAP (1-218), PAP (1-217), PAP (1-216), PAP (1-215), PAP (1-214), PAP (1-213), PAP (1-212), PAP (1-211), PAP (1-210), PAP (1-209), PAP (1-208), PAP (1-207), PAP (1-206), PAP (1-205), PAP (1-204), PAP (1-203), PAP (1-202), PAP (1-201), PAP (1-200), PAP (1-199), PAP (1-198), PAP (1-197), PAP (1-196), PAP (1-195), PAP (1-194), PAP (1-193), PAP (1-192), PAP (1-191), PAP (1-190), PAP (1-189), PAP (1-188), PAP (1-187), PAP (1-186), PAP (1-185) and PAP (1-184).